

Fishery Management Report No. 11-14

Alaska Peninsula-Aleutian Islands Management Area Herring Sac Roe Fishery Management Plans, 2011

by

Alex C. Bernard

March 2011

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code		all standard mathematical signs, symbols and abbreviations	
deciliter	dL		AAC		
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H _A
hectare	ha			base of natural logarithm	<i>e</i>
kilogram	kg	all commonly accepted		catch per unit effort	CPUE
kilometer	km	professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
liter	L			common test statistics	(F, t, χ^2 , etc.)
meter	m	at	@	confidence interval	CI
milliliter	mL	compass directions:		correlation coefficient (multiple)	R
millimeter	mm	east	E	correlation coefficient (simple)	r
Weights and measures (English)		north	N	covariance	cov
cubic feet per second	ft ³ /s	south	S	degree (angular)	°
foot	ft	west	W	degrees of freedom	df
gallon	gal	copyright	©	expected value	<i>E</i>
inch	in	corporate suffixes:		greater than	>
mile	mi	Company	Co.	greater than or equal to	≥
nautical mile	nmi	Corporation	Corp.	harvest per unit effort	HPUE
ounce	oz	Incorporated	Inc.	less than	<
pound	lb	Limited	Ltd.	less than or equal to	≤
quart	qt	District of Columbia	D.C.	logarithm (natural)	ln
yard	yd	et alii (and others)	et al.	logarithm (base 10)	log
Time and temperature		et cetera (and so forth)	etc.	logarithm (specify base)	log ₂ , etc.
day	d	exempli gratia (for example)	e.g.	minute (angular)	'
degrees Celsius	°C	Federal Information Code	FIC	not significant	NS
degrees Fahrenheit	°F	id est (that is)	i.e.	null hypothesis	H ₀
degrees kelvin	K	latitude or longitude	lat. or long.	percent	%
hour	h	monetary symbols (U.S.)	\$, ¢	probability	P
minute	min	months (tables and figures): first three		probability of a type I error (rejection of the null hypothesis when true)	α
second	s	letters	Jan,...,Dec	probability of a type II error (acceptance of the null hypothesis when false)	β
Physics and chemistry		registered trademark	®	second (angular)	"
all atomic symbols		trademark	™	standard deviation	SD
alternating current	AC	United States (adjective)	U.S.	standard error	SE
ampere	A	United States of America (noun)	USA	variance	
calorie	cal	U.S.C.	United States Code	population sample	Var var
direct current	DC	U.S. state	use two-letter abbreviations (e.g., AK, WA)		
hertz	Hz				
horsepower	hp				
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 11-14

**ALASKA PENINSULA-ALEUTIAN ISLANDS MANAGEMENT AREA
HERRING SAC ROE FISHERY MANAGEMENT PLANS, 2011**

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March 2011

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This document should be cited as:

Bernard, A. C. 2011. Alaska Peninsula-Aleutian Islands Management Area herring sac roe fishery management plans, 2011. Alaska Department of Fish and Game, Fishery Management Report No. 11-14, Anchorage.

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ABSTRACT

A Pacific herring *Clupea pallasii* sac roe fishery may occur in the Alaska Peninsula-Aleutian Islands Management Area (Area M) in 2011. This document is a guide for commercial herring harvesters, buyers, and tender operators and describes the management strategy, guideline harvest levels, fishing industry requirements for participation, and provides Alaska Department of Fish and Game (ADF&G) contact information. Dates and times for possible commercial fishing periods will be established by emergency order and can be obtained from ADF&G.

Key words: Pacific herring, *Clupea pallasii*, sac roe, Alaska Peninsula, Aleutian Islands, Area M, North Peninsula, South Peninsula, Port Moller, Sand Point, management plan, Alaska Board of Fisheries, guideline harvest level.

INTRODUCTION

This document provides commercial Pacific herring *Clupea pallasii* harvesters and buyers with guidelines that the Alaska Department of Fish and Game (ADF&G) will use to manage the Alaska Peninsula-Aleutian Islands Management Area (Area M) commercial herring sac roe fisheries.

Area M (Figure 1) is divided into three herring management subareas: the North Alaska Peninsula, consisting of Bering Sea waters extending west from Cape Menshikof to Cape Sarichef (Figures 2-4); the South Alaska Peninsula, consisting of Pacific Ocean coastal waters extending west of Kupreanof Point to near Cape Lazaref, on the south side of Unimak Island, 163°30' W long (Figures 4 and 5); and the Aleutian Islands, consisting of Bering Sea waters extending west of Unimak Pass and Pacific Ocean waters extending west from 163°30' W long to the International Date Line (Figure 1 and Figure 6). The North Alaska Peninsula, South Alaska Peninsula, and the Aleutian Islands fisheries will be managed independently of each other.

The North Alaska Peninsula herring sac roe fishery occurred annually from 1982 to 1996, and again in 1998, 2005, and 2009 (Bernard 2011). In 2010, ADF&G opened the fourth sac roe fishery on the North Alaska Peninsula since 1998. Due to limited effort, the amount of herring harvested in the waters of the North Alaska Peninsula is confidential (Bernard 2011).

The South Alaska Peninsula herring sac roe fishery occurred annually from 1980 to 1996, except in 1983 when the Alaska Board of Fisheries (BOF) allocated the herring harvest to a food and bait fishery. Since 1997, there has been little industry interest because of poor market conditions and no harvest has taken place (Bernard 2011).

In 2004, the BOF established the Alaska Peninsula-Aleutian Islands Herring Management Plan (5 AAC 27.657; Figure 8). This plan sets a 500 ton herring guideline harvest level (GHL) in the Adak District, for harvest as either sac roe or food and bait. In 2010 the BOF amended the plan to allow both purse seine and gillnet gear the opportunity to harvest the GHL. Season dates are from June 24 through February 28 annually. To date, no herring have been harvested in this fishery.

MANAGEMENT PLAN

In the Area M herring sac roe fishery, the permit holder and buyer will be responsible for determining acceptable herring quality. ADF&G will not close the herring fishery based on roe quality except in cases where excessive herring are expected to be wasted. Permit holders are encouraged to check with their buyer prior to fishing to determine industry standards for product

quality and size. All herring harvested during the sac roe season that are sold as bait or discarded due to quality problems will be included as part of the total herring harvest.

GHLs are not established for any management units except for the Port Moller (Table 1) and Adak districts (5 AAC 27.657). The South Alaska Peninsula and Aleutian Islands districts lack recent herring sac roe harvest histories and have few records of observed biomass, whereas the North Peninsula has data pertaining to catch, harvest and biomass as recently as 2010. The herring sac roe fisheries in Area M may open contingent upon 1) the processors and fishermen notifying ADF&G of interest in harvesting herring from a specific area; 2) ADF&G documenting herring biomass; and 3) ADF&G establishing a GHL.

ADF&G office locations and inseason emergency order broadcast frequencies are listed in Appendix A1. The global positioning system (GPS; North American Datum 1983) will be used to determine latitude and longitude coordinates throughout all Area M herring fisheries (5 AAC 27.606).

NORTH AND SOUTH PENINSULA

In the North Alaska Peninsula Management Area, the Port Heiden, Port Moller and Amak districts (Figures 2–4) may be opened for commercial sac roe herring fishing from April 15 through July 15. In accordance with the Bering Sea Herring Fishery Management Plan (5 AAC 27.060 (c)), herring fishing in the Port Moller District will be allowed only if ADF&G has documented a herring biomass threshold of at least 1,000 tons in the area. The GHL will be determined using a sliding scale exploitation rate, in which the allowable exploitation rate increases with stock abundance (Table 1). A minimum of six hours advance notice will be given prior to any fishing period in the Port Moller area, unless it is an extension of a current fishing period. If effort decreases, the six-hour notice of extension may be reduced or eliminated. Purse seine and gillnet gear will have concurrent openings throughout the North Peninsula.

In the South Alaska Peninsula Management Area, the Sand Point, Pavlof, and King Cove districts (Figures 4 and 5) may be opened for commercial sac roe herring fishing from April 15 through July 15 (5 AAC 27.610 (a)). Fishery openings will be contingent upon industry interest in harvesting herring from a specific area and ADF&G documentation of sufficient herring biomass. No more than a 25-ton harvest will be allowed from any section unless ADF&G documents a herring biomass that would support a larger harvest. Low biomass of spawning herring has been documented in South Alaska Peninsula waters, in part because of a limited number of aerial surveys. ADF&G plans to conduct aerial surveys annually and is requesting that any herring biomass observations be reported to ADF&G personnel in Sand Point.

ALEUTIAN ISLANDS

All districts within the Aleutian Islands, which include the Unimak, Akutan, Unalaska, and Umnak districts may open to commercial herring sac roe fishing between April 15 through noon June 24 (Figure 6; 5 AAC 27.610 (e)(1)). Fishing periods and GHLs in the Aleutian Islands will be contingent upon the industry expressing interest in harvesting herring in a specific area and ADF&G documenting sufficient herring biomass.

In the Adak District (Figure 7) up to 500 tons of herring may be taken by both purse seine and gillnet gear during the periods established by emergency order from June 24 through February 28 (5 AAC 27.657).

REGISTRATION REQUIREMENTS

Fishing Vessels

All Area M seine and gillnet commercial herring permit holders must register by contacting ADF&G in Dutch Harbor, Cold Bay, Sand Point, or Port Moller at least 48 hours before the sac roe season opens.

Tenders and Processors

All herring tenders and processors must register with ADF&G prior to buying or tendering herring (5 AAC 27.662). North Alaska Peninsula buyers, processors, and tender agents may register with ADF&G staff in the Port Moller office in person or through other means (e.g., radio, fax, or phone; Appendix A1). For the South Alaska Peninsula and Aleutian Islands districts, registration can be accomplished through ADF&G offices in Cold Bay, Sand Point, or Dutch Harbor (Appendix A1). Catch reporting instructions will be explained during the registration process.

CATCH REPORTING

Processors and tender operators must report daily to ADF&G while involved in the herring sac roe fishery (Appendix A1; 5 AAC 27.662). Daily reports must include the amount of herring harvested by catcher boats and an accurate estimate of herring on-board tenders. Because the allowable harvest could quickly be exceeded, harvesters are encouraged to report harvests after each set. Tenders and processors are asked to report immediately upon completion of each delivery.

FISH TICKETS

Permit holders must provide specific harvest locations (statistical area or a specific landmark) to buyers, so that locations can be recorded on fish tickets. Fish tickets must be delivered to local ADF&G personnel prior to departure from the area, and no later than 10 days after termination of buying operations in the area, or as otherwise specified by local representatives of ADF&G (5 AAC 27.662; Appendix A1). Fish tickets must include the weight of harvested herring in either units of short tons (2,000 lb.) or total pounds.

GILLNET AND SEINE SPECIFICATIONS

The aggregate length of herring gillnets in use by a herring Commercial Fisheries Entry Commission (CFEC) permit holder may not exceed 150 fathoms. The permit holder must be present while gillnet gear is being fished (5 AAC 27.631 (b)). Gillnet mesh may be up to 2.5", except in the Akutan and Unalaska districts where gillnet mesh may be up to 3.5" (5 AAC 27.631 (d)). A purse seine may not exceed 1,000 meshes in depth and 100 fathoms in length (5 AAC 27.632).

AIRCRAFT

There are no restrictions on the use of aircraft in this fishery.

INDUSTRY COOPERATION

ADF&G's ability to monitor herring biomass is limited by aircraft availability and funding constraints. Past cooperation has proven valuable when evaluating stock status and managing the

fishery and industry cooperation in locating herring will enable ADF&G to more efficiently monitor Alaska Peninsula-Aleutian Islands Area herring stocks. Harvesters and spotter pilots are encouraged to provide herring biomass estimates and spawning information to ADF&G. Cooperation of harvesters, tender operators, spotter pilots, and processors is encouraged when ADF&G personnel request herring samples from the commercial catch. Samples will be collected for monitoring age composition, which assists in determining the health of a stock and in forecasting the following year's run strength. ADF&G will also be monitoring spawning activities and will be soliciting information regarding herring sightings to supplement information gathered by ADF&G personnel.

REFERENCE CITED

Bernard, A. C. 2011. Alaska Peninsula-Aleutian Islands Management Area herring sac roe and food and bait fisheries annual management report, 2010. Alaska Department of Fish and Game, Fishery Management Report No. 11-06, Anchorage.

TABLES AND FIGURES

Table 1.–Port Moller District herring sac roe guideline harvest levels.

Stock Size (Tons)	Sliding Scale Exploitation Rate ^a	Allowable Harvest (tons) ^b
< 1,000	0%	0
1,001–1,500	10%	100–150
1,501–1,999	10%	150–200
2,000–2,500	15%	300–375
2,501–3000	15%	375–450
>3000	20%	>450

^a The GHL increases proportionally to spawning biomass observed by ADF&G. A sliding scale exploitation rate will be used to determine the GHL.

^b Herring harvested along the Bering Sea coast (southwest of Cape Seniavin) will be allocated to the Port Moller and Herendeen bays GHL if it is determined that these herring were traveling into Port Moller or Herendeen bays sections.

Figure 1.—Map of the Alaska Peninsula-Aleutian Islands herring management area.

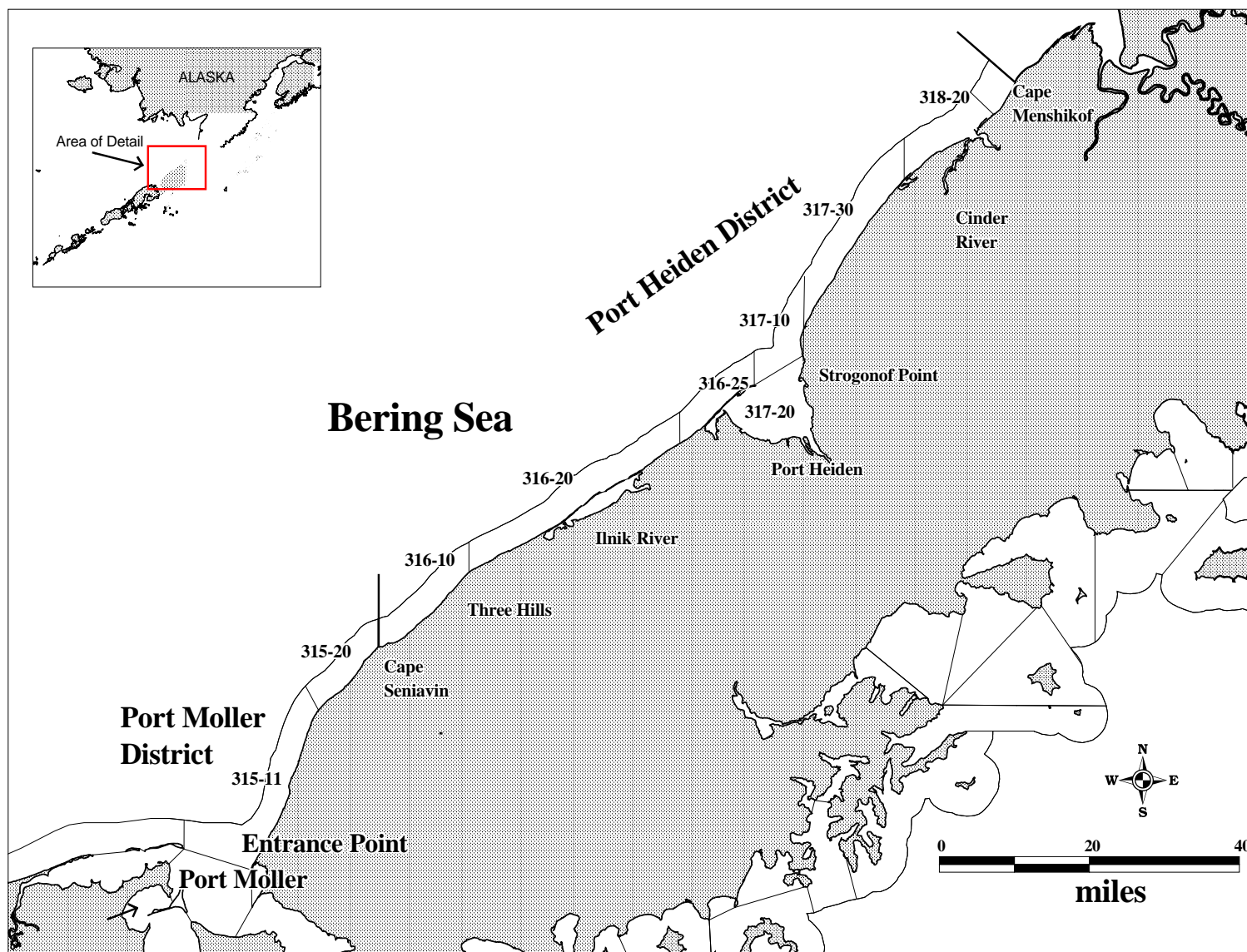


Figure 2.—Map of the Port Heiden and Port Moller Districts with commercial herring fishing statistical areas shown.

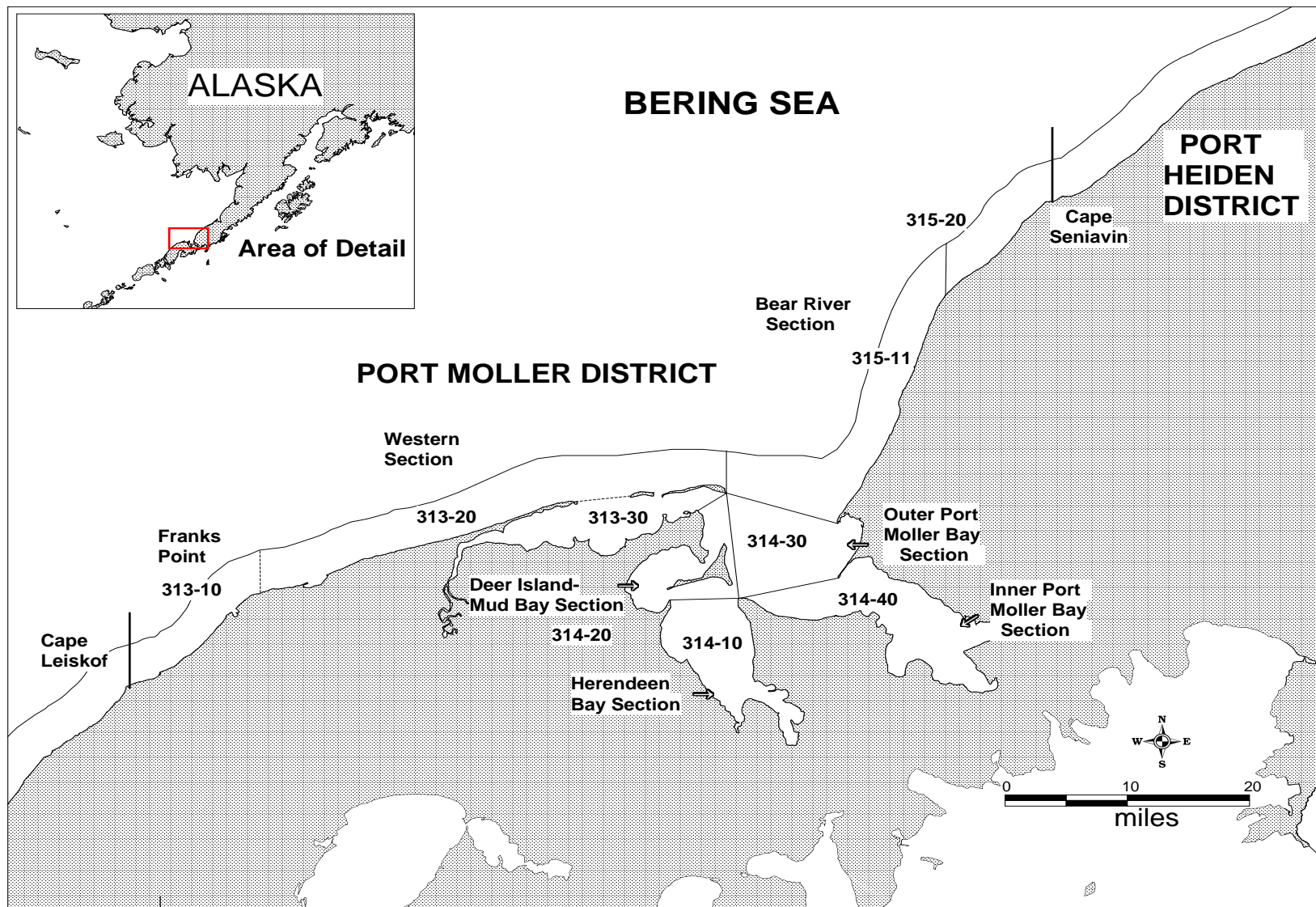


Figure 3.—Map of the Port Moller District depicting commercial herring fishing statistical areas.

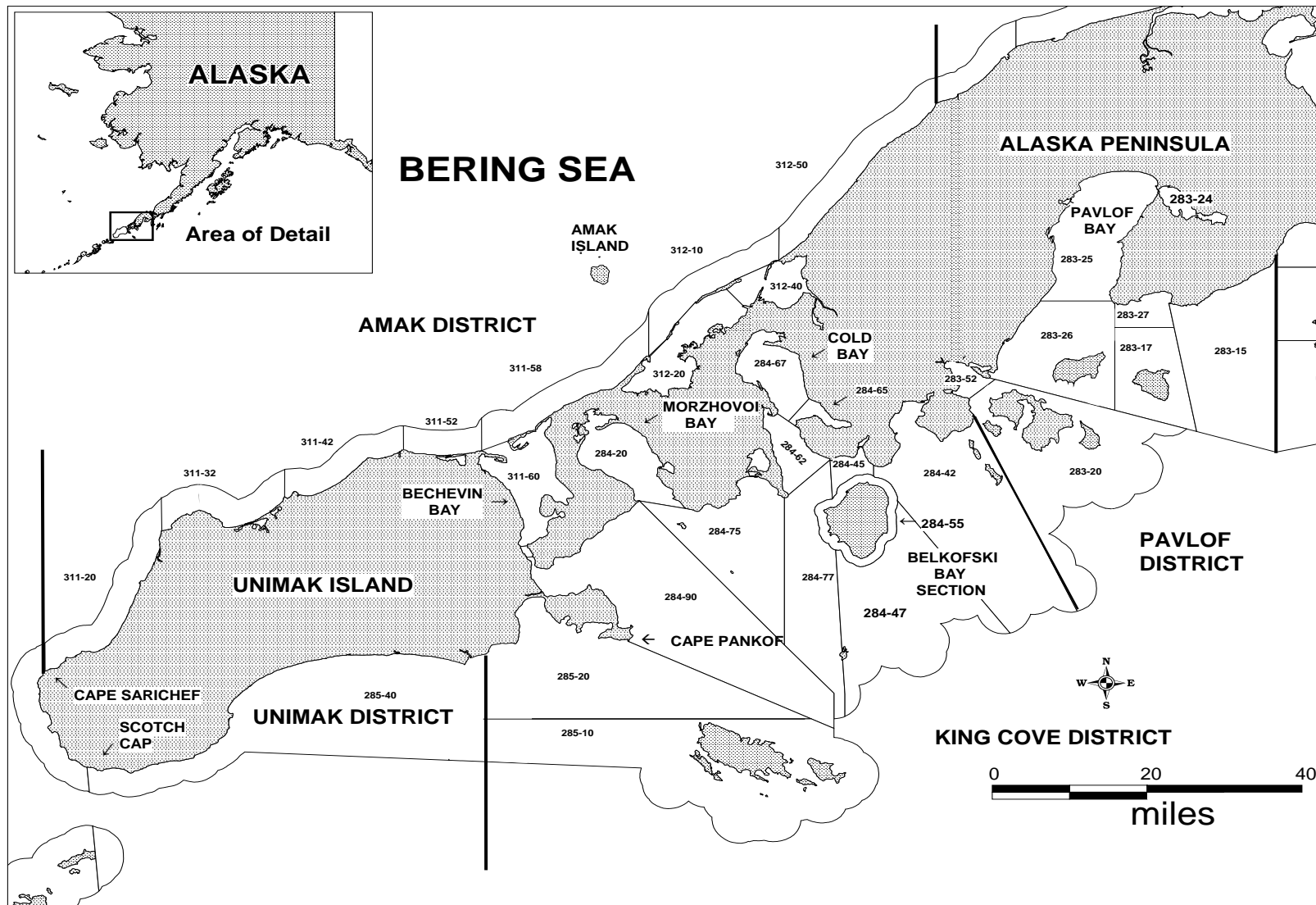


Figure 4.—Map of the Alaska Peninsula from Pavlof Bay to Cape Sarichef depicting commercial herring fishing statistical areas.

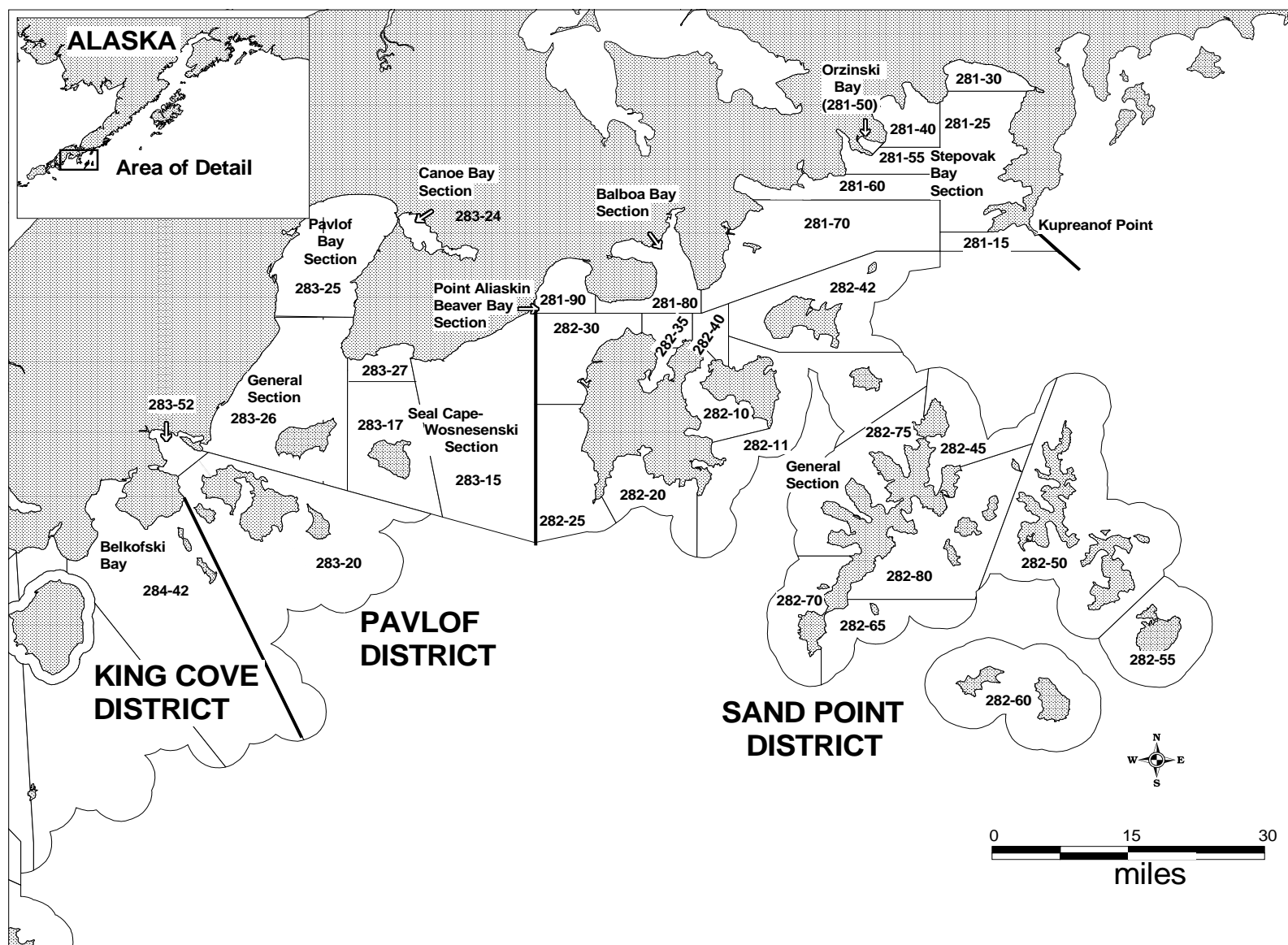


Figure 5.—Map of the Alaska Peninsula from Kupreanof Point to Belkofski Bay depicting commercial herring fishing statistical areas in the Sand Point, Pavlof, and King Cove districts.

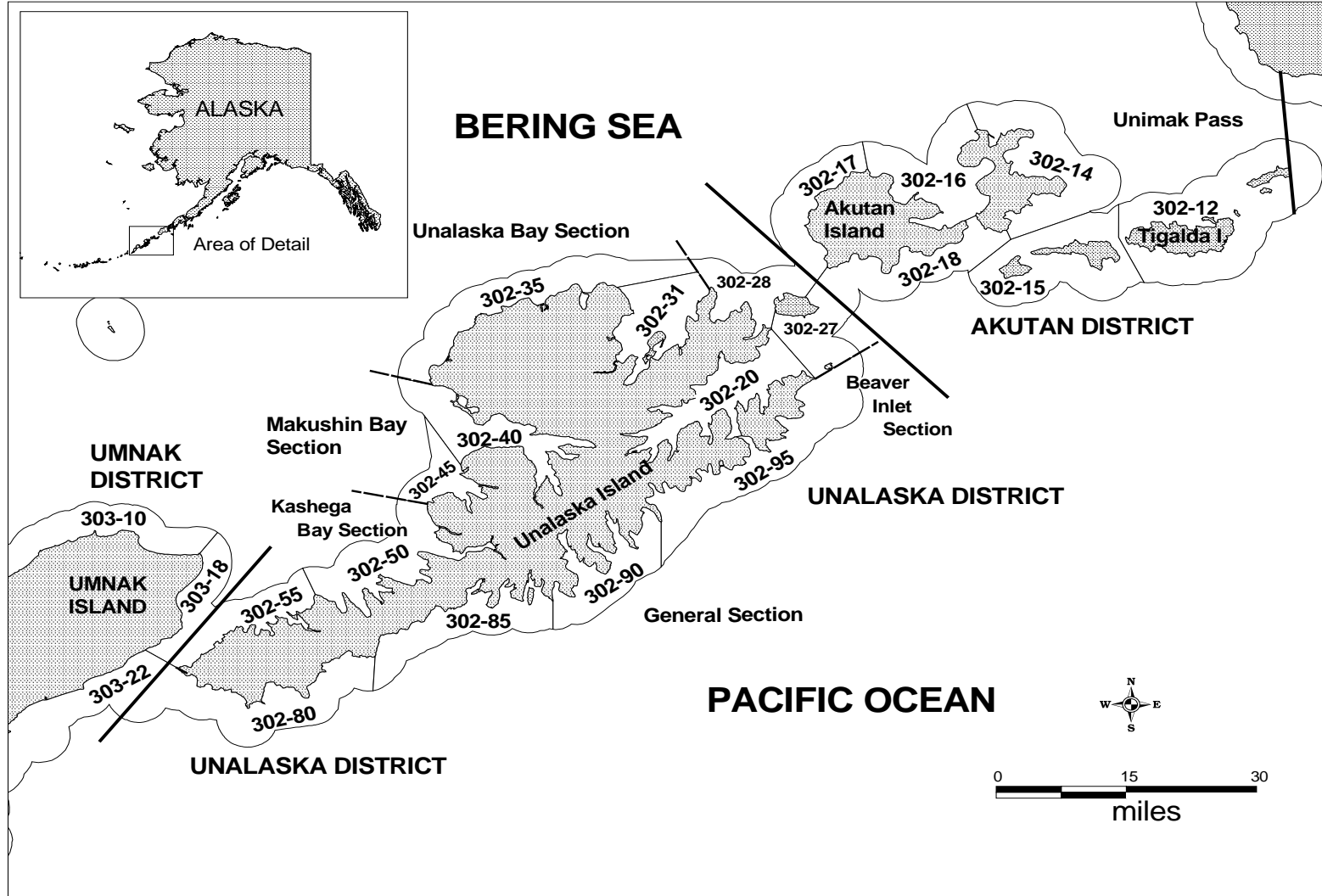


Figure 6.—Map of the eastern Aleutian Islands from Tigalda Island to Umnak Island depicting commercial herring fishing districts and statistical areas.

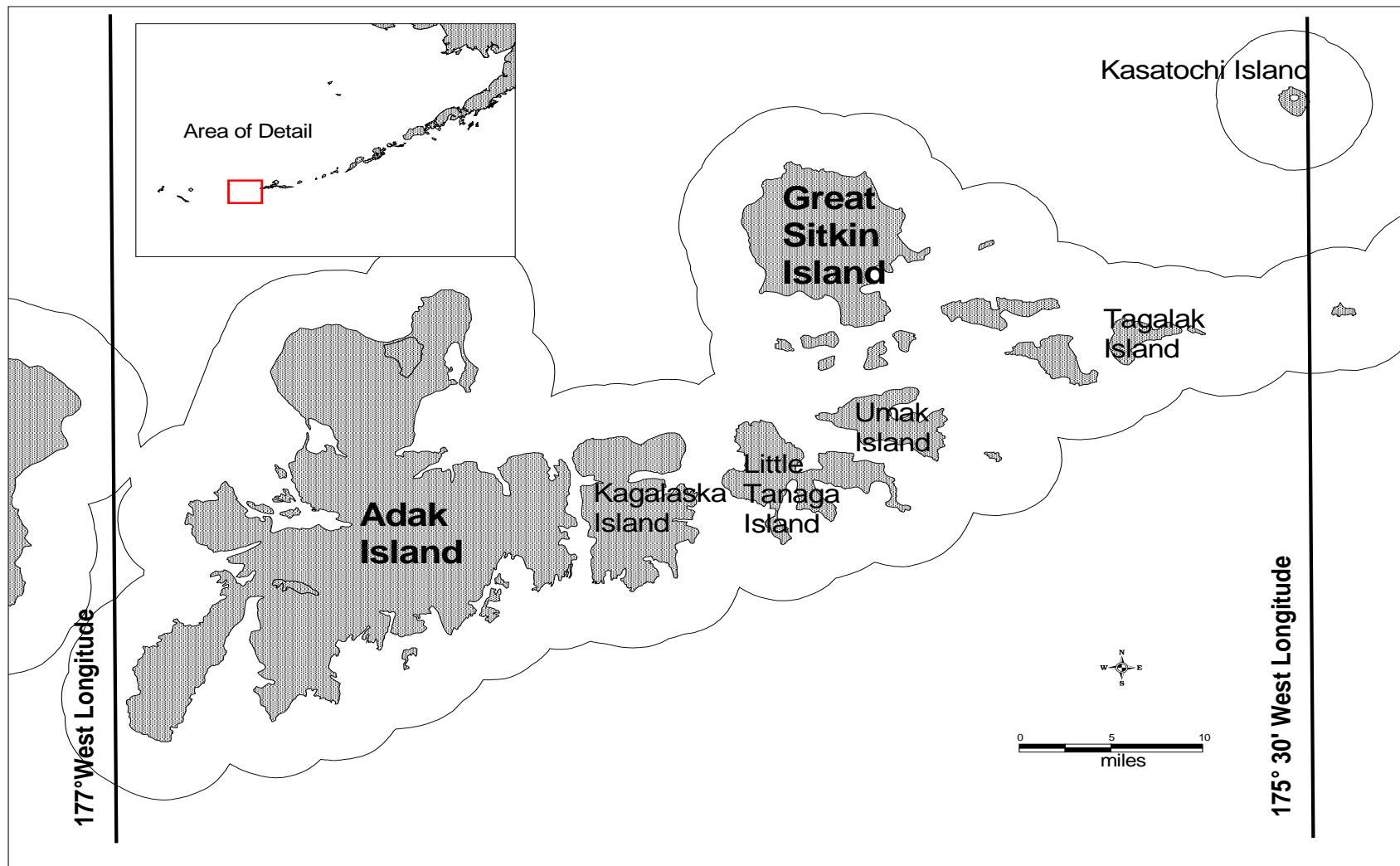


Figure 7.—Map of the Adak District fishing area.

APPENDIX A. ADF&G OFFICE ADDRESSES

Sand Point

Alaska Department of Fish and Game
P.O. Box 129
Sand Point, AK 99661

phone (907) 383-2066

fax (907) 383-2606

recorded message (907) 383-2334

VHF 6 and 73

Single Side Band 3.230 MHz

KWB 362

Dutch Harbor

Alaska Department of Fish and Game
P.O. Box 920587
Dutch Harbor, AK 99692

phone (907) 581-1219

fax (907) 581-1572

VHF 9

Single Side Band 4.125 MHz

WIM 76

Cold Bay

Alaska Department of Fish and Game
P.O. Box 50
Cold Bay, AK 99571

phone (907) 532-2419

fax (907) 532-2470

VHF 6

Single Side Band 3.230 and 3.261 MHz

KCO 332/KXP 78

Port Moller

Alaska Department of Fish and Game
P.O. Box 163
Port Moller, AK 99571-8999

phone (907) 375-2716

fax (907) 375-2715

VHF 72

Single Side Band 3.230 MHz

WNGV 537